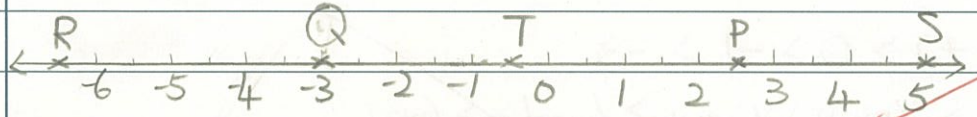
Jason Ng (18)

1. $(-1.5, -0.5)$

2a. $(-9)-(-6)+(-7)+(+12)$
$=(-9)+6-7+12$
$=12+6-7-9$
$=2$

2b. $-\frac{5}{8}+[3-(-\frac{5}{8}-\frac{3}{8})]$
$=-\frac{5}{8}+(3+\frac{5}{8}+\frac{3}{8})$
$=3+\frac{3}{8}$
$=3\frac{3}{8}$

3.



4. $7d+2e-4d-7f-5e+3f$
$=7d-4d+2e-5e+3f-7f$
$=3d-3e-4f$

5.

x	1	2	3	5
y	-1	a	-5	b

$\because$ $(2,a)$ lies on the graph of equation $y=-2x+1$
$\therefore a=(-2)\times 2+1$
$a=-4+1$
$a=-3$

$\because$ $(5,b)$ lies on the graph of equation $y=-2x+1$
$\therefore b=(-2)\times 5+1$
$b=-10+1$
$b=-9$

x	1	2	3	5
y	-1	-3	-5	-9

6a. $2x+(9-2x)+(3x+2)$
$=2x+9-2x+3x+2$
$=3x+11$

The perimeter of $\triangle ABC$ is $3x+11$

6b $\because$ The perimeter of $\triangle ABC$ is $3x+11$

$\therefore 3x+11=17$

$3x=6$

$x=2$

7a Height of Linda:

$138-1$

$=137$ cm

The height of Linda is 137 cm

7b $\because +7 > +2 > 0 > -1 > -3$

$\therefore$ David > Kevin > Vincy > Linda > Gigi

David is the tallest, Gigi is the shortest

7c $147-138$

$=9$

$\because 147 > 138$

$\therefore$ The difference is $+9$ cm

7d $+9-(-3)$

$=9+3$

$=12$

$\because -3 < 9$

$\therefore$ The difference is -12 cm

8 $\because (x,-9)$ lies on the graph of equation $4x-y+3=0$

$\therefore 4x-(-9)+3=0$

$4x+9+3=0$

$4x+12=0$

$4x=-12$

$x=-3$

$\because (-\frac{1}{3}, y)$ lies on the graph of equation $4x-y+3=0$

$\therefore 4x(-\frac{1}{3})-y+3=0$

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8. (continued) $-\frac{4}{3} - y + 3 = 0$

$1\frac{2}{3} - y = 0$

$y = 1\frac{2}{3}$

$\because (1, y)$ lies on the graph of equation $4x - y + 3 = 0$

$\therefore 4 \times 1 - y + 3 = 0$

$4 + 3 - y = 0$

$7 - y = 0$

$y = 7$

$\therefore (x, 0.6)$ lies on the graph of equation $4x - y + 3 = 0$

$\therefore 4x - 0.6 + 3 = 0$

$4x + 2.4 = 0$

$4x = -2.4$

$x = -0.6$

x	3	$-\frac{1}{3}$	1	-0.6
y	-9	$1\frac{2}{3}$	7	0.6

The four solutions of the equation are $(-3, -9), (-\frac{1}{3}, 1\frac{2}{3}), (1, 7), (-0.6, 0.6)$

9. $\angle c = 37°$ (alt. $\angle$s, AB // CD)

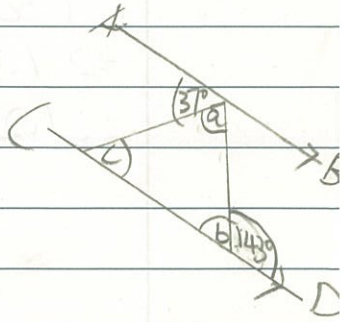
$\angle b + 143° = 180°$ (adj. $\angle$s on st. line)

$\angle b = 37°$

$\angle a + \angle b + \angle c = 180°$ ($\angle$ sum of $\triangle$)

$\angle a + 37° + 37° = 180°$

$\angle a = 106°$



10. 5, 3, 1, -1

-2 -2 -2

$(-2) \times 1 + 7 = 5$

$(-2) \times 2 + 7 = 3$

$(-2) \times 4 + 7 = -1$

$\therefore n^{th}$ term $= (-2)n + 7$

11. $\frac{x-3}{2} = \frac{3-x}{5}$

$10 \times \frac{x-3}{2} = 10 \times \frac{3-x}{5}$

$5(x-3) = 2(3-x)$

$5x - 15 = 6 - 2x$

$7x - 15 = 6$

$7x = 21$

$x = 3$

12a. $1.2(x-2) + 2.2(y-1) = 27.4$

$1.2x - 2.4 + 2.2y - 2.2 = 27.4$

$1.2x + 2.2y - 4.6 = 27.4$

b.

x	23	12
y	2	8

$\therefore (23, y)$ lies on the graph of equation $1.2x + 2.2y - 4.6 = 27.4$

$\therefore 1.2 \times 23 + 2.2y - 4.6 = 27.4$

$27.6 + 2.2y = 32$

$2.2y = 4.4$

$y = 2$

$\therefore (x, 8)$ lies on the graph of equation $1.2x + 2.2y - 4.6 = 27.4$.

$\therefore 1.2x + 2.2 \times 8 - 4.6 = 27.4$

$1.2x + 17.6 = 32$

$1.2x = 14.4$

$x = 12$

Possible numbers of candies and chocolates:

Candies: 23 Chocolates: 2

Candies: 12 Chocolates: 8.

13. $|(3a+2) - (5a+7)| = 18$

$|-2a - 5| = 18$

When $-2a-5$ is negative, $-(-2a-5) = 18$, $2a+5 = 18$

$2a + 5 = 18$

$2a = 13$

$a = 6.5$

23
+1.2
4.6

32.0 23.0
−27.6
4.4

32.0
−17.6

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$$\begin{array}{r} 26 \\ \times 26 \\ \hline 156 \\ 520 \\ \hline 676 \end{array} \qquad \begin{array}{r} 27 \\ \times 27 \\ \hline 189 \\ 540 \\ \hline 729 \end{array}$$

13(cont.) When $-2a-5$ is positive,

$-2a-5=18$

$-2a=23$

$a=-11.5$

Possible values of a are $6.5, -11.5$.

14 Let the largest square formed with only 700 dots be maximu

$n \leq 700$.

$\therefore 26^2 < 700 < 27^2$.

$\therefore$ The 26^{th} term is the largest square formed by 700 do
